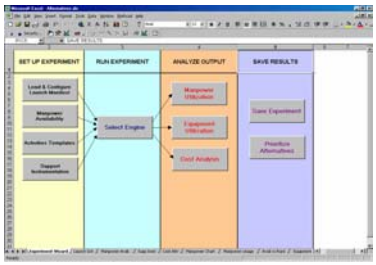
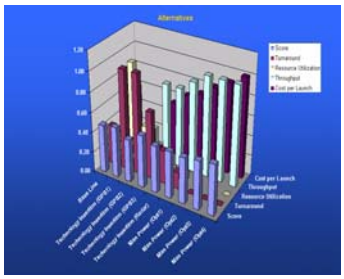
Success Story

Range Process Simulation Tool (RPST)



RPST Experiment and Analysis Flow Architecture



Example RPST Output

Description of Innovation

Knowledge Based Systems, Inc. (KBSI) located in College Station, TX has developed and demonstrated a Range Process Scheduling Tool (RPST), a novel capability for technology insertion change impact analysis. The RPST is intended for use by Range Planners and Range Technology Portfolio Managers to quantitatively assess range operational performance and assess the impact of Range technology changes / upgrades on operational performance. RPST also provide key enabling technology for modeling and analyzing future aerospace transportation *spaceports*. RPST innovations is a novel, model-based approach for change impact assessment and a component-based, scaleable, open architecture approach that facilitates rapid tailor-ability and cost-effective deployment to varying spaceport application situations. The main benefits are the RPST's ability to accurately and reliably predict impact of technology changes on space transportation systems, to reduce the space transportation system operational and maintenance costs through improved change management decision support, and to affordably explore a large number of space transportation system decision alternatives.

Value back to NASA and other Government Agencies

RPST prototype software tool was delivered for initial end user testing at the Cape Canaveral Air Force Station (Eastern Range) from a SBIR Phase 3 contract for $195,000 (NASA POC: Timothy Barth (321) 867-6230). RPST has been adapted for US Army applications, including Special Forces scheduling and a Black Hawk Fleet Management Demonstration (BHFMD) Project. BHFMD project goals are to reduce operations and support costs, improve force protection, improve the flow of logistical information, improving aircraft maintainability, and increasing aircraft readiness.

Innovative Partnership Program

Success Story

Range Process Simulation Tool (RPST)

Partnership Contributions

KBSI has already acquired several follow-on federally funded and commercial R&D contracts to refine, enhance, and deploy this capability with other organizations. Total value of additional investment (government and commercial) to date is $1,220,000. RPST methods and tools have been adapted and are being evaluated (with follow-on investments) by United Space Alliance, U.S. Air Force and U.S. Army. RPST methods and design have been incorporated into KBSI's WorkSim – Copyrighted software.

IPP Role

Dr. Perakath Benjamin of Knowledge Based Systems, Inc., applied for and was awarded a Phase 1 Phase II and a Phase III SBIR contract through Kennedy Space Center's SBIR/STTR Program to address NASA's need to quantitative assess the impact of technology insertion on operational performance of space transportation systems. These programs are managed by NASA's Chuck Griffin and supported by ASRC Aerospace's Project Specialist, Jennifer Van Pelt

Other References, Sources

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